

What is Claimed is:

1           1. A medical ventilation tube for placement in an anatomical  
2 structure comprising

3           a hollow tubular shaft having a passage formed therethrough,  
4 said hollow tubular shaft being made of a first material having a  
5 rigidity to resist bending and maintain said passage in an open  
6 condition when said ventilation tube is placed in the anatomical  
7 structure; and

8           a flange extending outwardly from said hollow tubular shaft,  
9 said flange being made of a second material having a rigidity less  
10 than that of said first material to permit said flange to deform in  
11 response to contact with the anatomical structure.

1           2. A medical ventilation tube as recited in claim 1 wherein  
2 said first material is a polymer having a durometer no greater than  
3 about 100 on the Shore A hardness scale and said second material is  
4 a polymer having a durometer less than said first material but  
5 greater than about 20 on the Shore A hardness scale.

1           3. A medical ventilation tube as recited in claim 2 wherein  
2 said first material is a polymer having a durometer of about 90 to  
3 about 95 on the Shore A hardness scale.

1           4. A medical ventilation tube as recited in claim 3 wherein  
2 said second material is a polymer having a durometer of about 50 on  
3 the Shore A hardness scale.

1           5. A medical ventilation tube as recited in claim 4 wherein  
2 said first and second materials are block copolymers.

1           6. A medical ventilation tube as recited in claim 5 wherein  
2 said first and second materials are Styrene-Ethylene/Butylene-  
3 Styrene block copolymers.

1           7. A medical ventilation tube as recited in claim 1 wherein  
2 said first material is a metal and said second material is a  
3 polymer.

1           8. A medical ventilation tube as recited in claim 1 wherein  
2 said hollow tubular shaft has a distal end and said flange is  
3 mounted at said distal end of said hollow tubular shaft.

1           9. A medical ventilation tube as recited in claim 8 and  
2 further comprising a cylindrical section secured to said distal end  
3 of said hollow tubular shaft, said cylindrical section and flange  
4 being of integral one-piece construction.

1           10. A medical ventilation tube as recited in claim 9 wherein  
2 said cylindrical section and said hollow tubular shaft have  
3 substantially the same outer circumference.

1           11. A medical ventilation tube as recited in claim 10 wherein  
2           said cylindrical section and said hollow tubular shaft abut one  
3           another, and wherein abutting portions of said cylindrical section  
4           and said hollow tubular shaft are bonded together.

1           12. A medical ventilation tube as recited in claim 11 wherein  
2           a portion of said cylindrical section fits within a recess formed  
3           in said hollow tubular shaft.

1           13. A medical ventilation tube as recited in claim 11 wherein  
2           a portion of said hollow tubular shaft fits within a recess formed  
3           in said cylindrical section.

1           14. A medical ventilation tube as recited in claim 13 and  
2           further comprising shrink tubing surrounding said cylindrical  
3           section.

1           15. A method of making a medical ventilation tube comprising  
2           the steps of

3           forming a hollow tubular shaft from a first material having a  
4           rigidity to resist bending and to maintain a passage through the  
5           shaft when the ventilation tube is placed in an anatomical  
6           structure; and

7           molding a flange onto the hollow tubular shaft using a second  
8           material having a rigidity less than that of the first material to

9 permit the flange to deform in response to contact with the  
10 anatomical structure.

1 16. A method of making a medical ventilation tube as recited  
2 in claim 15 wherein said molding step includes placing the hollow  
3 tubular shaft within a mold having a cavity configured to form the  
4 flange.

1 17. A method of making a medical ventilation tube as recited  
2 in claim 16 wherein said molding step further includes injecting  
3 the second material into the mold to fill the cavity and thermally  
4 bond with the hollow tubular shaft.

1 18. A method of making a medical ventilation tube as recited  
2 in claim 15 wherein said molding step further includes using a  
3 polymer having a durometer of about 50 as the second material.

1 19. A method of making a medical ventilation tube as recited  
2 in claim 15 wherein said step of forming a hollow tubular shaft  
3 includes extruding a continuous length of hollow tubing and cutting  
4 the hollow tubing to a predetermined length.

1 20. A method of making a medical ventilation tube as recited  
2 in claim 19 wherein said step of forming a hollow tubular shaft  
3 further includes using a polymer having a durometer of about 90 to  
4 about 95 as the first material.

1           21. A method of making a medical ventilation tube as recited  
2 in claim 15 wherein said step of forming a hollow tubular shaft  
3 includes molding a ventilation tube using the first material and  
4 trimming the flange away.